AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Withdrawn) A chimeric molecule comprising a polypeptide having telomerase catalytic activity fused to a telomere binding polypeptide.

2. (Withdrawn) The molecule according to claim 1 wherein said polypeptide having telomerase catalytic activity comprises the catalytic protein subunit of telomerase reverse transcriptase, or functional portion or variant thereof.

3. (Withdrawn) The molecule according to claim 2 wherein said telomerase reverse transcriptase is a mammalian telomerase reverse transcriptase, or functional portion or variant thereof.

4. (Withdrawn) The molecule according to claim 1 wherein said telomere binding polypeptide is selected from the group consisting of Pot1, TRF1, TRF2, PinX1, Rap1, Tin2, Tankyrase, TANK2 and Ku70/80, and functional portions and variants thereof.

5. (Withdrawn) The molecule according to claim 4 wherein said telomere binding polypeptide is human Pot1 (hPot1), or functional portion or variant thereof.

6. (Withdrawn) The molecule according to claim 1 wherein said telomere binding polypeptide is present in said molecule N-terminal to said polypeptide having telomerase catalytic activity.

7. (Withdrawn) The molecule according to claim 1 wherein said telomere binding polypeptide is directly linked to said polypeptide having telomerase catalytic activity.

8. (Currently Amended) ~~A~~ An isolated nucleic acid sequence encoding ~~the molecule according to claim 1~~ a chimeric molecule comprising a polypeptide having telomerase catalytic activity fused to a telomere binding polypeptide, wherein said polypeptide having telomerase catalytic activity comprises a catalytic subunit of a mammalian telomerase reverse transcriptase.

9. (Currently Amended) The nucleic acid sequence according to claim 8 wherein said nucleic acid sequence encodes a molecule comprising the protein encoded by the nucleotide sequence set forth in SEQ ID NO:1~~, or functional portion or variant thereof~~.

10. (Currently Amended) ~~The~~ An isolated nucleic acid sequence encoding a chimeric molecule comprising a polypeptide having telomerase catalytic activity fused to a telomere binding polypeptide ~~according to claim 8~~ wherein said nucleic acid sequence comprises the nucleotide sequence set forth in SEQ ID NO:1.

11. (Original) An expression construct comprising said nucleic acid sequence according to claim 8 operably linked to a promoter.

12. (Original) A vector comprising the nucleic acid sequence according to claim 8.

13. (Original) The vector according to claim 12 wherein said vector is a viral vector.

14. (Original) The vector according to claim 13 wherein said viral vector is a retroviral vector, adeno-associated viral vector, lentiviral vector or adenoviral vector.

15. (Original) A liposome comprising the nucleic acid sequence according to claim 8.

16. (Original) A composition comprising the nucleic acid sequence according to claim 8 encapsulated in a polymer.

17. (Original) An isolated cell comprising the nucleic acid sequence according to claim 8.

18. (Original) The cell according to claim 17 wherein said cell is a stem or progenitor cell.

19. (Original) The cell according to claim 17 wherein said cell is an epithelial cell or a fibroblast.

20. (Original) The cell according to claim 17 wherein said cell is a muscle cell, nervous system cell, or keratinocyte.

21. (Original) The cell according to claim 17 wherein said cell is a human cell.

22. (Original) The cell according to claim 17 wherein said cell is immortal.

23. (Original) A method of producing a protein comprising culturing said cell according to claim 17 under conditions such that said nucleic acid sequence is expressed and said molecule is thereby produced.

24. (Withdrawn) A method of elongating telomere length comprising introducing into a cell the nucleic acid sequence according to claim 8 under conditions such that said nucleic acid sequence is expressed and said molecule is thereby produced and said elongation is effected.

25. (New) The nucleic acid according to claim 8 wherein said telomere binding polypeptide is selected from the group consisting of Pot1, TRF1, TRF2, PinX1, Rap1, Tin2, Tankyrase, TANK2 and Ku70/80.

26. (New) The nucleic acid according to claim 25 wherein said telomere binding polypeptide is hPot1.

27. (New) The nucleic acid according to claim 25 wherein said telomere binding polypeptide is present in said molecule N-terminal to said polypeptide having telomerase catalytic activity.

28. (New) The nucleic acid according to claim 25 wherein said telomere binding polypeptide is directly linked to said polypeptide having telomerase catalytic activity.

29. (New) An expression construct comprising said nucleic acid sequence according to claim 25 operably linked to a promoter.

30. (New) A vector comprising the nucleic acid sequence according to claim 25.

31. (New) The vector according to claim 30 wherein said vector is a viral vector.

32. (New) The vector according to claim 31 wherein said viral vector is a retroviral vector, adeno-associated viral vector, lentiviral vector or adenoviral vector.

33. (New) A liposome comprising the nucleic acid sequence according to claim 25.

34. (New) A composition comprising the nucleic acid sequence according to claim 25 encapsulated in a polymer.

35. (New) An isolated cell comprising the nucleic acid sequence according to claim 25.

36. (New) The cell according to claim 35 wherein said cell is a stem or progenitor cell.

37. (New) The cell according to claim 35 wherein said cell is an epithelial cell or a fibroblast.

38. (New) The cell according to claim 35 wherein said cell is a muscle cell, nervous system cell, or keratinocyte.

39. (New) The cell according to claim 35 wherein said cell is a human cell.

40. (New) The cell according to claim 35 wherein said cell is immortal.

41. (New) A method of producing a protein comprising culturing said cell according to claim 35 under conditions such that said nucleic acid sequence is expressed and said molecule is thereby produced.